While specific embodiments of the present invention have been described above, these examples are given to explain the general construction of the invention and its operation. Many variations in design of L-T ultrasonic tissue dissectors are possible, including changes in materials, transducers, geometry and tips all known to persons skilled in the art. Such variations may be made without departure from the scope or spirit of this invention.

Claims: I claim:

1.

An ultrasonic longitudinal-torsion tissue dissection system comprising an

electrical generator supplying electrical voltage and current by connection to

a electro-mechanical transducer that is joined mechanically to a

Longitudinal-Torsional resonator mechanically that is mechanically joined to

a tip in contact with biological tissue.

2.

A system of claim 1 where the electro-mechanical transducer is a longitudinal transducer.

3.

A system of claim 1 where the electro-mechanical transducer is a torsional transducer.

4.

An ultrasonic longitudinal-torsion tissue dissection system comprising an

electrical generator supplying electrical voltage and current by connection to

a electro-mechanical transducer that is joined mechanically to a

longitudinal-torsional resonator mechanically that is mechanically joined to

a tip in contact with biological tissue.

a source of irrigation fluid connected to

said Longitudinal-Torsional resonator.

5.

A system of claim 1 where the electro-mechanical transducer is a longitudinal transducer.

6.

A system of claim 1 where the electro-mechanical transducer is a torsional transducer.

7.

A system of claim 4 where said source of irrigation fluid is connected to said electro-mechanical transducer.

8.

An ultrasonic longitudinal-torsion tissue dissection system comprising an

electrical generator supplying electrical voltage and current by connection to

a electro-mechanical transducer that is joined mechanically to a

longitudinal-torsional resonator mechanically that is mechanically joined to

a tip in contact with biological tissue.

a vacuum source connected to

Said Longitudinal-Torsional resonator.

9.

A system of claim 1 where the electro-mechanical transducer is a longitudinal transducer.

10.

A system of claim 1 where the electro-mechanical transducer is a torsional transducer.

11.

A system of claim 8 where said source of irrigation fluid is connected to said electro-mechanical transducer.